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## New taxa and distributional notes on *Abbottella* and related taxa (Gastropoda: Littorinoidea: Annulariidae)

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### Abstract

Seven new species of *Abbottella* and related taxa are described from Hispaniola: *Abbottella calliotropis* n. sp., *Abbottella diadema* n. sp., *Abbottella dichroa* n. sp., *Abbottella nitens* n. sp., *Abbottella paradoxa* n. sp., *Abbottella tenebrosa* n. sp., and *Leiabbottella thompsoni* n. sp. Distributional and habitat notes are given for additional taxa.

**Key words:** Annulariidae, *Abbottella*, *Lagopoma*, *Leiabbottella*, *Rolleia*, Hispaniola, new species

### Introduction

*Abbottella* species are a highly endemic group of land snails living in Hispaniola with a single species in eastern Cuba. Most are known chiefly from Puerto Plata to the Samaná Peninsula in the Cordillera Septentrional that forms the northern coast of the Dominican Republic. A second, lowland group occupies the easternmost portion of the island from the coast west to Santo Domingo. A few puzzling outliers occur at Isla Beata and near Thomazeau, Haiti. Many species are known only from the type locality, or from an unknown locality, and thus their actual distributions remain unclear. Based on material from the Florida Museum of Natural History, the collection of Jozef Grego, and the author's collection, it is now possible to fill in some of these gaps in their distributional records. Although the family was extensively reviewed by Bartsch (1946), he lacked material from the eastern end of Hispaniola, which is shown to harbor several new species, described herein.

Most species are associated with limestone outcrops, often in humid forests. Even those species living in the lowlands away from the mountain ranges occur on isolated limestone ridges. Limestone deposits mainly exist on the coast, whereas the interior mountain ranges are primarily igneous and do not harbor these snails (F. Thompson, UF, pers. comm., March, 2013). The ranges of most species appear to be quite small; some probably occur along bluffs of ca. 20 km or less. Fortunately, some species have at least a portion of their range in protected areas such as Parque Nacional Del Este, Parque Nacional Isabel De Torres, and Parque Nacional El Choco. Despite their narrow ranges, individuals are often locally abundant.

*Abbottella* and its relatives appear to have evolved on mainland Hispaniola and were not part of the Tiburon Peninsula species assemblage tectonically rafted to the island (Watters, 2006). A single species occurs in Cuba, *A. decolorata* (Pfeiffer, 1859), which belongs to the subgenus *Gundlachtudora*. However, that species occurs in Guantánamo, the easternmost point on Cuba. That is less than 90 km away from the western-most point of northern Haiti at Bombardopolis, where *A. bompardopolensis* Bartsch, 1946, occurs, which significantly is also a *Gundlachtudora* (there are only three taxa total). In all likelihood *A. decolorata* was the result of rafting across this strait from Haiti. Preliminary radular and phylogenetic studies (in prep.) clearly indicate that *Abbottella* and its relatives are a distinct monophyletic group apart from the rest of the Annulariidae.

*Abbottella* may be organized into five species complexes based on conchological characteristics; these groups may be worthy of subgeneric status. One complex has subdued sculpture, a globose shell with a high spire, and a metallic sheen to the shell. It occurs along the Cordillera Septentrional from Sósua to Higüey. The group consists of *A. mellosa* Watters & Duffy, 2010, and *A. nitens* new species.